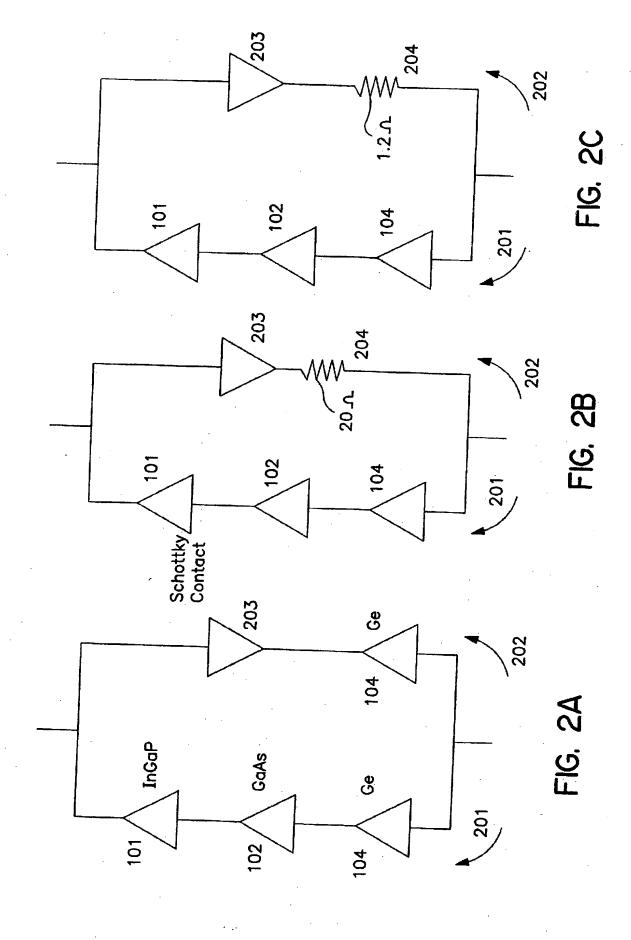


FIG. 1



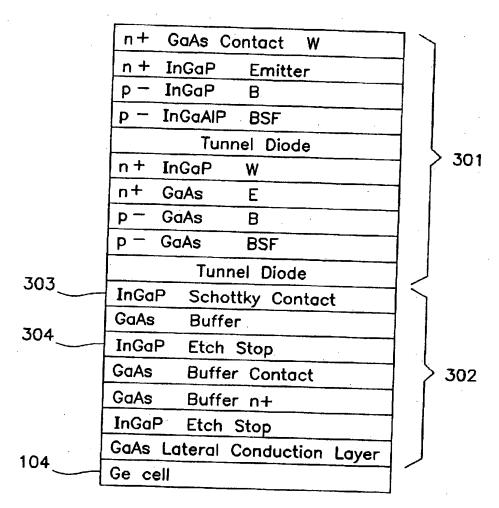


FIG. 3

n+Ga As Contact	
n + InGaP	
p - InGaP	
p — InGaAIP	
Tunnel Diode	
n+ InGaP	•
n + GaAs	
p - GaAs	
p - GaAs	
Tunnel Diode	
InGaP Schottky Contact	403
GaAs Buffer	
InGaP Etch Stop	
GaAs Buffer Contact	
GaAs Buffer n+	
InGaP Etch Stop	
GaAs Lateral Conduction Layer	
Ge cell	

FIG. 4

																		104	
				-			(	501	205	Incas	dp0::-	1000	A CO		- }-	Indep ES	Lateral Conduction Layer	Ge	
n+ GaAs Contact W	n + InGaP Emitter	P InGaP B	p - InGaAIP BSF	Tunnel Diode	n+ InGaP W	n + GaAs E	p — GaAs B	P - GaAs BSF	Tunnel Diode	InGaP Schottky Contact	GaAs Buffer	InGaP. Etch Stop	GaAs Buffer Contact	GaAs Buffer n+	InGaP Etch Stop	GaAs Lateral Conduction Laver	Ge cell	20000	

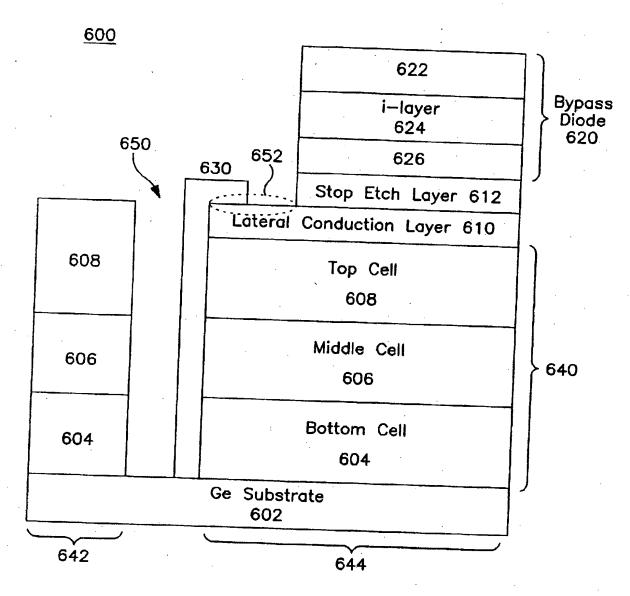


FIG. 6

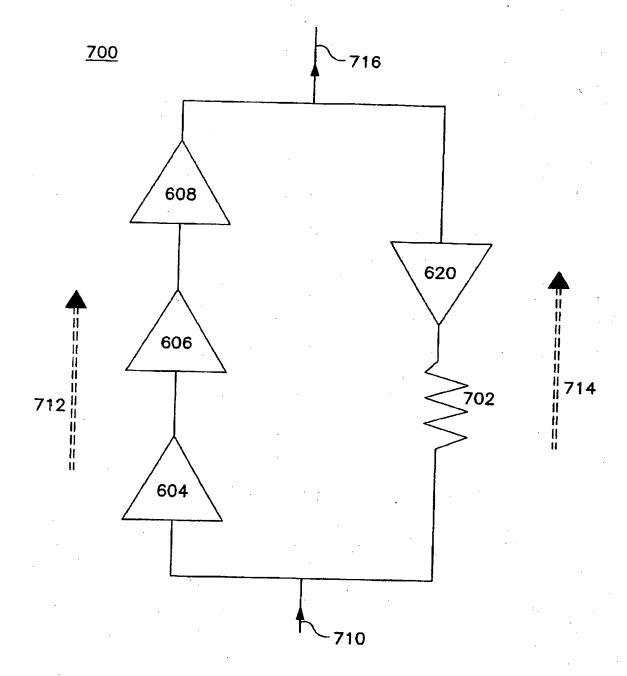


FIG. 7

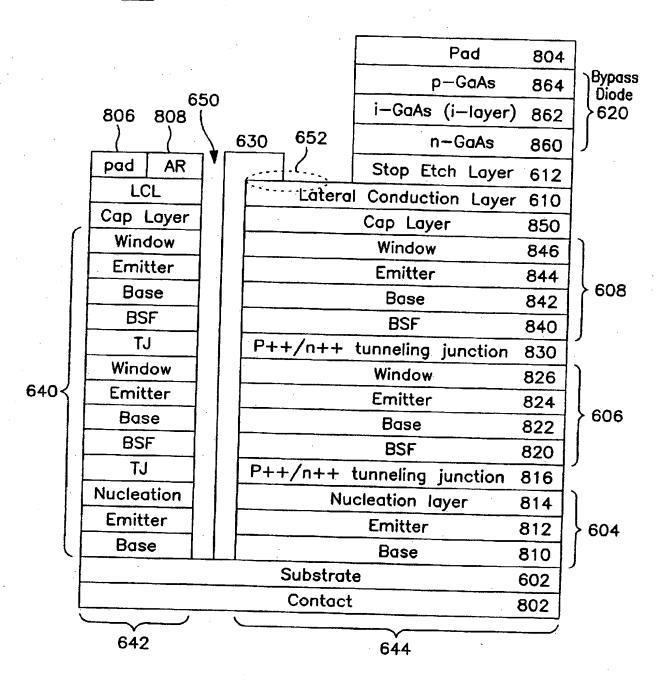


FIG. 8

Pad	804	
p-GaAs	864	1)_
i-GaAs (i-layer)	862	Bypass   Diode
n-GaAs	860	620
Stop Etch Layer	612	
Lateral Conduction Layer	610	
Cap Layer	850	
Window	846	)
Emitter	844	
Base	842	608
BSF	840	
P++/n++ tunneling junction	830	)
Window	826	)
Emitter	824	
Base	822	606
BSF	820	
P++/n++ tunneling junction	816	,
Nucleation layer	814	
Emitter	812	604
Base	810	
Substrate	602	,
Contact	802	•

FIG. 9A

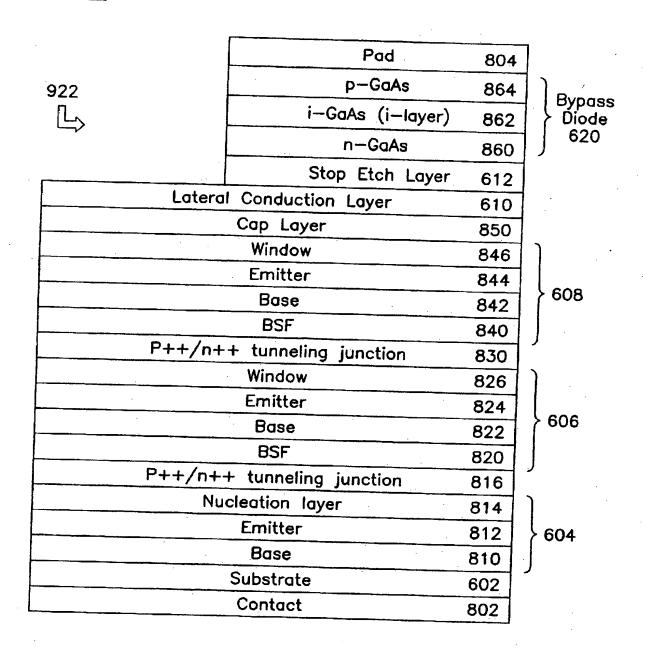


FIG. 9B

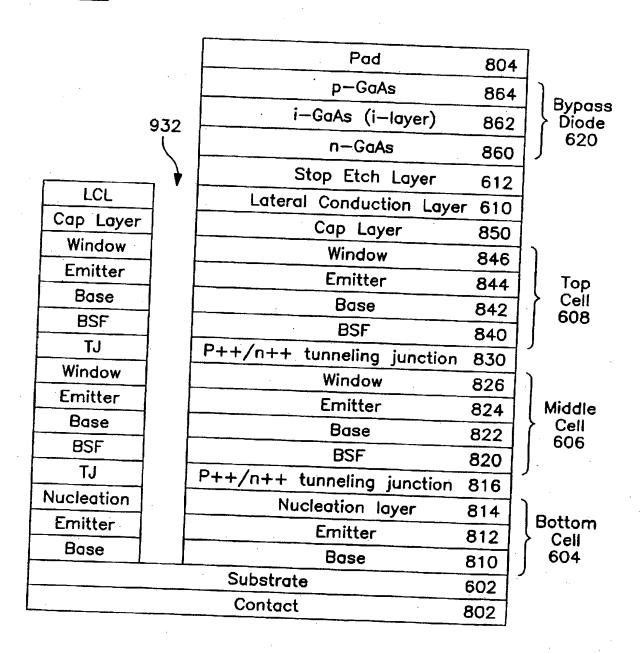


FIG. 9C

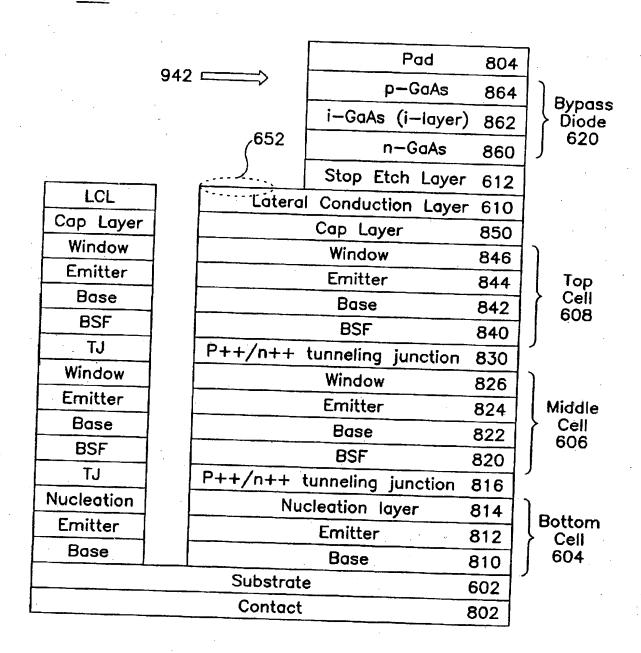


FIG. 9D

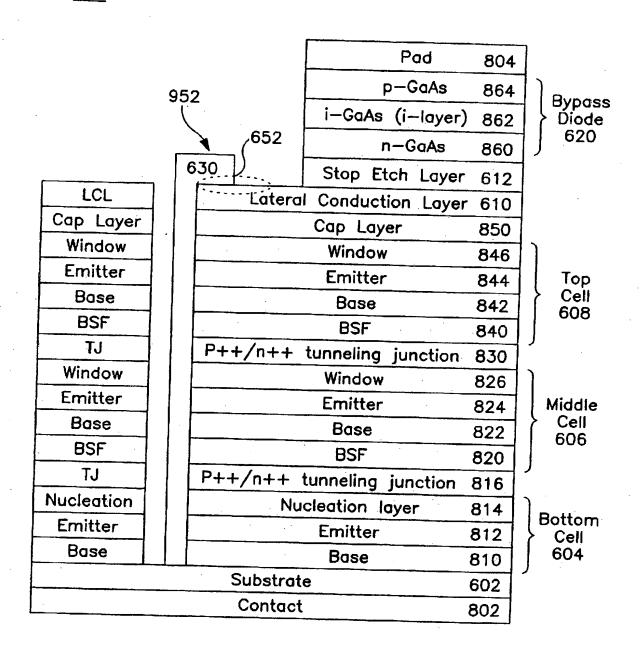


FIG. 9E

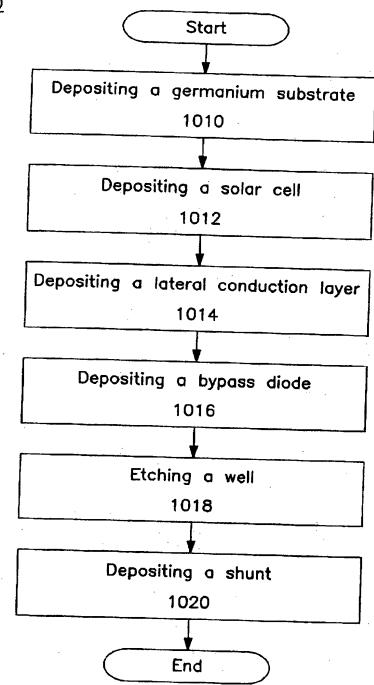


FIG. 10